

**IN THE CLAIMS:**

**Please amend claims 1-11, and 13-25.**

**Claim 12 remains "as-is".**

1. (Currently Amended) A method for enabling a JAVA application[[s]], that is a client of a JDBC driver, to connect data from an object linking-embedding database (OLE DB ) database via utilization of a JAVA Database Connectivity (JDBC) interface, comprising the steps of:

(a) initiating a JAVA application to contact [[a]] said JAVA Database Connectivity (JDBC) Driver;

(b) bridging, by said JDBC Driver, to an OLE DB data provider, to provide [[an]] a JDBC interface between said JDBC Driver and said OLE DB database.

2. (Currently Amended) The method of claim 1 where step (b) includes the steps of:

(b1) providing a series of JAVA classes that implement ~~[[the]]~~ said JDBC interface;

(b2) implementing a Datalink Library in C++ for ~~[[the]]~~ said JAVA classes to act as an OLE DB client for said OLE DB data provider.

3. (Currently Amended) The method of claim 2 wherein step (b2) includes the step of:

(b2a) connecting said ~~JDBC-application~~ JAVA classes to said OLE DB ~~application~~ client to enable utilization of said ~~establish an~~ OLE DB data provider.

4. (Currently Amended) A method for enabling a ~~client using~~ JAVA application[[s]] acting as a JDBC Driver client to access an OLE DB database having OLE DB objects, by the utilization of a JAVA Database Connectivity (JDBC) API interface which follows the JDBC Standard, comprising the steps of:

(a) establishing, for each interface in [[the]] said JDBC API interface, a corresponding JAVA class holding JAVA objects and a corresponding C++ class[[;]] holding C++ objects;

(b) maintaining in each JAVA object of said JAVA class, a reference to its corresponding C++ object[[;]] in said C++ class;

(c) maintaining in each C++ object a reference to the OLE DB object which most closely matches the functionality of [[the]] said JDBC API interface;

(d) passing, by said C++ class, a database query to said OLE DB database[[.]] via an OLE DB data provider holding an OLE DB Command Object.

5. (Currently Amended) The method of claim 4 wherein step [[(d)]] (b) includes the steps of:

(b1) calling, by a selected JStatement object, for an Execute function on its corresponding C++ Statement object;

(b2) calling, by said C++ Statement object, on the functions of two ~~different~~ separate interfaces of the corresponding OLE DB Command Object which (i) sets up the text for ~~[[the]]~~ said database query, and (ii) provides an Execute command to execute ~~[[the]]~~ said database query.

6. (Currently Amended) The method of Claim 5 which further includes the steps of:

(e1) ~~[[c]]~~ connecting to ~~[[the]]~~ said OLE DB database to garner ~~the~~ ~~accessed~~ a response to ~~[[the]]~~ said database query;

(e2) ~~[[d]]~~ returning ~~the~~ ~~resultant~~ said response to said client, JAVA application.

7. (Currently Amended) The method of claim [[4]] 5 wherein step (b2) includes the steps of:

(b2a) creating, by said CStatement C++Statement object, a CResultSet object;

(b2b) making said CResultSet object enable a reference to a Rowset object;

(b2c) passing, by said CStatement C++Statement object, a connecting reference to the newly-created CResultSet object for passing said CResultSet object back to said JStatement object;

(b2d) creating, by said JStatement object, of a new JResultSet object;

(b2e) making said new JResultSet object reference the corresponding CResultSet object;

(b2f) returning, by said JStatement object, of the JResultSet object to said ~~client~~. JAVA application.

8. (Currently Amended) The method of claim 7 wherein step (b2f) includes the step of:

(b2f1) utilization, by said ~~Client~~, JAVA application, at the ResultSet object, to access the data returned by said OLE DB database in response to said database query.

9. (Currently Amended) The method of claim 7 wherein step (b2f) includes the step of:

(b2f2) implementing ~~the~~ ~~said~~ a ResultSet interface, as defined by said JDBC standard, to utilize said ResultSet object to access the data returned from ~~[[the]]~~ said OLE DB database in response to said database query.

10. (Currently Amended) A system utilizing a JAVA JDBC API application specification which is the JAVA™ platform standard call level API for database access designated core JDBC 2.1 API by Sun Microsystems, and also utilizing a OLE DB API Specification which is a Microsoft statement for Microsoft Data Access Components of which OLE DB (Object Linking and Embedding Database) is one collection of COM objects that encapsulate database management system services for various servers and data providers and has four OLE DB objects which are DataSource, Session, Command, and Rowset, said system for enabling a client utilizing a JAVA JDBC API application to access [[a]] an OLE DB database which is designed for communication with OLE DB-type interfaces comprising:

(a) JDBC Driver means that utilize JDBC API JAVA standards and performs a bridge interface operation between [[said]] a JAVA JDBC API application and an OLE DB data provider which implements [[the]] said OLE DB API specification;

(b) means to pass an OLE DB database query initiated by said JAVA [[([]]JDBC API[[])] application as a client to a database organized for OLE DB API clients and receive a response to said OLE DB database query suitable for said JAVA JDBC API application to receive properly.



11. (Currently Amended) The system of claim 10 wherein said JDBC Driver means includes:

(b1) a series of JDBC API interfaces wherein each said JDBC API interface contains a JAVA class holding JAVA objects and a corresponding C++ class[[]] having C++ objects;

(b2) means to maintain a reference between each JAVA object and its corresponding C++ object;

(b3) means to maintain a reference between each C++ object and the particular OLE DB object which most closely matches the functionality of the JDBC API interface.

12. (Original) The system of claim 11 wherein each C++ object maintains a connective reference to multiple interfaces defined by the said OLE DB object.

13. (Currently Amended) The system of claim 10 wherein said means (b) to pass an OLE DB database initiated by said JAVA [[()]]JDBC API[[()]] application as a JAVA client to [[a]] an OLE DB database organized for OLE-DB API clients, includes:

(b1) means to create a JDriver object;

(b2) means to create a CDriver object[[;]] which provides a C session object;

(b3) means to make said JDriver object reference itself to said CDriver object;

(b4) means to create a Data Source object;

(b5) means to make said CDriver object reference said Data Source object;

(b6) means to develop a OLE DB Session object;

(b7) means to make said CSession object reference said OLE DB Session object;

(b8) means to create a JSession object;

(b9) means to make said JSession object reference said CSession object;

(b10) means to return said JSession object to said Java client.

14. (Currently Amended) The system of claim 13 which further includes:

(c) [(a)] means to create a Statement object, said means including;

(c1) means to query whether [(the)] said OLE DB Data Provider supports an OLE DB Command object;

(c2) if [(not,)] no support is provided to said OLE DB command object by said OLE DB Data Provider, then, activation means to create a CStatement object which is referenced to said OLE DB Session object.

15. (Currently Amended) The system of claim 13 wherein if said OLE DB Data Provider does not support (c2) said OLE DB Command object, then said activation means includes:

(c2a) means to create an OLE DB Command object;

(c2b) means to create a CStatement object which is referenced to said OLE DB Command object;

(c2c) means to create a JStatement object which is referenced to said CStatement object;

(c2d) means to return said JStatement object to said JAVA client.

16. (Currently Amended) The system of claim 15 wherein said means (c2a) to create an OLE DB Command object includes:

(c2a1) [[d1]] means to create a CPreparedStatement object or a CCallableStatement object which is referenced to said Command object;

(c2a2) [[d2]] means to create a JPreparedStatement object or JCallableStatement object which is respectively referenced to said CPreparedStatement object or said CCallableStatement object;

(c2a3) [[d3]] means to return, to said JAVA client, said JPreparedStatement object or said JCallableStatement object.

17. (Currently Amended) The system of claim 14 wherein said means (c1) to query whether said OLE DB Data Provider supports an OLE DB Command object indicates a negative (NO) response, includes:

(c1a) [[d3]] means to catch [[this]] said negative response as an exception and display an error code.

18. (Currently Amended) The system of claim 15 wherein said means (c2b) to create a CStatement object referenced to said OLE DB Command object includes:

(c2b1) [[e1]] means to indicate that said CStatement object does reference said OLE DB Command object;

(c2b2) [[e2]] means to execute said OLE DB Command of said Command object;

(c2b3) [[e3]] means to question if said OLE DB Command object involves a query;

(c2b4) [[e4]] means, if said Command object involves a query, to create a Rowset object;

(c2b5) [[e5]] means to create a CResultSet object which is referenced to said Rowset object;

(c2b6) [[e6]] means to create a JResultSet object which is referenced to said CResultSet object;

(c2b7) [[e7]] means to return to said client, said JResultSet object.

19. (Currently Amended) The system of claim [[17]] 15 wherein said means (c2b) to create a CStatement object referenced to said OLE DB Command object includes:

(c2bn1) [[ey1]] means to indicate that said CStatement object does not reference said OLE DB Command object;

(c2bn2) [[ey2]] means to indicate that the command to said OLE DB Command object is a simple query;

(c2bn3) [[ey3]] means to call the Open Rowset function of the IOpenRowset interface which is supported by the Session object;

(c2bn4) [[ey4]] means to create a Rowset object;

(c2bn5) [[ey5]] means to create a CResultSet object referenced to said Rowset object;

(c2bn6) [[ey6]] means to create a JResultSet object referenced to said CResultSet object;

(c2bn7) [[ey7]] means to return to said JAVA client, said JResultSet object.

20. (Currently Amended) The system of claim [[14]] 15 wherein said means [[c2)]] (c2b) to create a CStatement object referenced to said OLE DB Command object includes:

(c2b1) [[i)]] means to indicate that said CStatement object does not reference said OLE DB Command object;

(c2b2) [[ii)]] means to indicate that [[the]] an SQL command to said OLE DB Command object is NOT a simple query;

(c2b3) [[iii)]] means to flag an exception condition and display an error message.

21. (Currently Amended) The system of claim [[15]] 18 wherein said means [[c3)]] (c2b3) to question said OLE DB Command object indicates that it is NOT a query, then said system includes:

(c2b31) [[e7)]] means to return to said JAVA client, a count of the number of records which have been updated.

22. (Currently Amended) The system of claim 15 wherein said means (c2a) to create an OLE DB Command object includes:

(f1) means to execute an SQL command;

(f2) means to indicate said command is an SQL query;

(f3) means to create an OLE DB Rowset object to handle said SQL query;

(f4) means to create a C++ ResultSet object which references said Rowset object;

(f5) means to create a JAVA JResultSet object which references said CResultSet object created in clause (f4);

(f6) means to return said JResultSet object to the JAVA client application.

23. (Currently Amended) The system of claim 22 wherein means (f4) to create said ~~CResultSet~~ C++ResultSet object includes:

(g1) means to create a CResultSetMetaData object;

(g2) means to acquire column information from said Rowset object;

(g3) means to create a JResultSetMetaData object based on said column information;

(g4) means to return to said JAVA client, a reference to said JResultSetMetaData object.



24. (Currently Amended) The system of claim 23 wherein said means (g1) to create a CResultSetMetaData object includes:

(h1) means to create a CDatabaseMetaData object which is referenced to said OLE DB Session object;

(h2) means to create a JDatabaseMetaData object which is referenced to said CDatabaseMetaData object;

(h3) means to return to said JAVA client, said reference to said JDatabaseSetMetaData object.

25. (Currently Amended) The system of claim ~~[[22]]~~ 23 wherein said means (f3) to create an OLE DB Rowset object includes:

(d1) means to create a ~~CResultSet~~ C++ResultSet object which is referenced to said OLE DB Rowset object;

(d2) means to create a JResultSetMetaData object based on said column information ~~[[((g2))] claim 13]~~, cited on clause (g3);

(d3) means to return to said JAVA client, a reference to said JResultSetMetaData object.